BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR A HEARING TO DETERMINE THE FAIR VALUE OF THE UTILITY PROPERTY OF THE COMPANY FOR RATEMAKING PURPOSES, TO FIX A JUST AND REASONABLE RATE OF RETURN THEREON, TO APPROVE RATE SCHEDULES DESIGNED TO DEVELOP SUCH RETURN, AND FOR APPROVAL OF PURCHASED POWER CONTRACT	)))))))))	DOCKET NO. E-10345A-03-0437

DIRECT TESTIMONY

OF

MICHAEL J MAJOROS JR

ON BEHALF OF THE
STAFF OF THE ARIZONA CORPORATION COMMISSION

February 3, 2004

Introduction

Q. Please state your name, position and business address.

A. My name is Michael J. Majoros, Jr. I am Vice President of Snavely King Majoros O'Connor & Lee, Inc. ("Snavely King"), an economic consulting firm located at 1220 L Street, N.W., Suite 410, Washington, D.C. 20005.

Q. Please describe Snavely King.

A. Snavely King was founded in 1970 to conduct research on a consulting basis into the rates, revenues, costs and economic performance of regulated firms and industries. The firm has a professional staff of 11 economists, accountants, engineers and cost analysts. Most of its work involves the development, preparation and presentation of expert witness testimony before federal and state regulatory agencies. Over the course of its 33-year history, members of the firm have participated in more than 500 proceedings before almost all of the state commissions and all Federal commissions that regulate utilities or transportation industries.

Q. Have you prepared a summary of your qualifications and experience?

A. Yes. Appendix A is a summary of my qualifications and experience. It also contains a tabulation of my appearances as an expert witness before state and Federal regulatory agencies.

Q. For whom are you appearing in this proceeding?

A. I am appearing on behalf of the staff ("Staff") of the Arizona Corporation Commission ("ACC").

Q. What is the subject of your testimony?

A. Depreciation is the subject of my testimony.

Q. Do you have any specific experience in the field of public utility depreciation?

A. Yes. I and other members of my firm specialize in the field of public utility depreciation. We have appeared as expert witnesses on this subject before the regulatory commissions of almost every state in the country. I have testified in over 100 proceedings on the subject of public utility depreciation and represented various clients in several other proceedings in which depreciation was an issue but was settled. I have also negotiated on behalf of clients in fifteen of the Federal Communications Commissions' ("FCC") Triennial Depreciation Represcription conferences.

Q. Does your experience specifically include electric company depreciation?

A. Yes. I have testified in thirty-one proceedings on the subject of electric company depreciation, and I have prepared testimony in seven electric proceedings in which depreciation was ultimately settled.

Purpose of Testimony

Q. What is the purpose of your testimony?

A. I have been asked to review the depreciation-related testimony and exhibits of Arizona Public Service Company ("APS" or "the Company"). I was asked to express an opinion regarding the reasonableness of the Company's depreciation expense proposal and, if warranted, make alternative recommendations. I will also address the Company's implementation of the Financial Accounting

Standards Board's ("FASB") Statement of Financial Accounting Standards No. 143 ("SFAS No. 143").

APS' Depreciation-Related Proposal

Q. Please summarize APS' proposal.

A. Company witness Ms. Laura Rockenberger sponsors the Company's depreciation study and the resulting depreciation claim. The study was actually conducted by Mr. John F. Wiedmayer of Gannett Fleming and results in revised depreciation rates and amortization schedules producing a $287.7 million depreciation and amortization expense based on APS' plant and accumulated depreciation balances as of December 31, 2002.[1] This, in turn, represents a $3.0 million depreciation expense increase. Mr. Wiedmayer also prepared an addendum to the depreciation study setting forth depreciation rates for certain Pinnacle West Energy Corporation ("PWEC") production assets for which APS is seeking rate base treatment.[2]

In addition to the Company's depreciation proposal, Ms. Rockenberger sponsors the Company's implementation of the Financial Accounting Standards Board's Statement of Financial Accounting Standards No. 143. In its initial adoption of SFAS No. 143 "APS recorded a liability of $219 million for its asset retirement obligations including accretion impacts; a $67 million increase in the book value of the associated assets; and a net reduction of $192 million in

[1] Direct Testimony of Laura Rockenberger ("Rockenberger"), page 18, lines 13-14.
[2] Rockenberger, page 14, lines 23-24 and page 15, lines 1-2.

accumulated depreciation related primarily to the reversal of previously recorded accumulated decommissioning and other removal costs relating to these obligations. Additionally, APS recorded a regulatory liability of $40 million for its asset retirement obligations."[3] The $40 million liability represents the cumulative timing differences between the amounts previously recovered in regulated rates in excess of the amount calculated under SFAS No. 143."[4] The Company is requesting specific language in the Commission's decision in this case approving APS' request that the application of SFAS No. 143 be revenue neutral in the rate making process and that cost of removal for assets without an asset retirement obligation continue to be reflected in the depreciation accrual and accumulated depreciation.[5]

Current Rates

Q. When were the Company's present depreciation rates approved?

A. APS' present depreciation rates were approved in a February 14, 1995 letter from the Arizona Corporation Commission, responding to APS' request for proposed depreciation changes.[6] The submission for a change in depreciation rates was based on an update of a 1992 study by Gannett Fleming, approved by the ACC in Decision No. 58664, dated June 1, 1994.[7]

[3] Rockenberger, page 21, lines 18–24.
[4] Rockenberger, page 21, lines 18–24.
[5] Id., page 22, lines 10-17.
[6] Response to MJM 1-45. February 14, 1995 letter from Gary Yaquinto, Director, Utilities Division, Arizona Corporation Commission to William T. Post, Chief Operating Officer, Arizona Public Service Company.
[7] Id.

Q. How are the present rates calculated?

A. The Company's present rates for the Production, Transmission and Distribution functions are straight-line remaining life rates.[8] They include a $5.6 million additional depreciation provision for nuclear plant accounts, which was intended to offset the reduction in expense caused by switching from the average service life method (prior to the 1995 letter) to the remaining-life method (as approved in the 1995 letter).[9]

Q. Is APS proposing to continue to collect the additional provision for nuclear plant depreciation in its proposal for this proceeding?

A. No.[10]

Summary and Conclusions

Q. What is your opinion regarding the Company's depreciation and SFAS No. 143 proposals?

A. In my opinion, the Company's depreciation proposal is unreasonable because the proposal produces an excessive depreciation expense which will, in turn, be charged to ratepayers. APS' SFAS No. 143 proposal is also unreasonable because it is inconsistent with the principles and fundamentals of SFAS No. 143 as well as the related accounting order of the Federal Energy Regulatory Commission ("FERC") in Docket No. RM02-7, ("Order No. 631.")

[8] The rates for Nuclear account 325 and the General plant accounts are calculated using the average service life method.
[9] Id.
[10] Response to MJM 2-77.

Q. What do you recommend?

A. I recommend a $240.3 million depreciation and amortization expense which results in a $44.3 million decrease rather than APS' $3.0 million proposed increase.[11]

Q. Why do you disagree with the Company's depreciation proposal?

A. I have the following disagreements.

- The Company has overstated its recovery of production plant decommissioning costs.
- The Company's proposed incorporation of future net salvage values in its transmission, distribution and general depreciation rate calculations is unreasonable because they increase the depreciation rates for inflated estimates of costs that probably will not be incurred.
- Several of the Company's proposed lives in the transmission, distribution and general plant functions are too short, thereby overstating the associated depreciation expense.

Q. Why do you disagree with the Company's SFAS No. 143 proposal?

A. I disagree with the Company's SFAS No. 143 proposal because it has not properly reflected the net salvage allowance it is proposing to charge to ratepayers.

Q. Have you accepted any of the Company's parameters?

A. Yes, I have accepted several of the Company's proposed parameters.

[11] Exhibit___(MJM-3), Statement D, p. 1 of 1.

Q. Was your decision to accept these parameters passive or did you conduct analysis to arrive at your decision?

A. My decision to accept these parameters was not passive; I conducted substantial analysis as will be discussed in several later sections of my testimony. Where I have accepted the Company's proposals it was based on my own independent analysis.

Additional Studies

Q. Did you conduct any additional analyses or studies which are useful for purposes of this proceeding?

A. Yes. My firm prepared a nationwide study of the life spans of Steam Production units in excess of 50 MW. We also conducted a study of life spans relating to Other Production units. These studies, identified as Exhibit___(MJM-1) and (MJM-2), can be used along with other information, to judge the reasonableness of estimated production plant life spans.

Q. Do your testimony and the related exhibits constitute a depreciation study?

A. Yes, they do. Exhibit___(MJM-3) incorporates all of my analyses and calculations and recommendations. It is followed by several explanatory exhibits.

Depreciation Concepts

Q. What is depreciation expense?

A. In summary, depreciation expense is a charge to operating expense to reflect the recovery of a company’s previously expended capital. Public utility depreciation expense is typically straight-line over service life which results in an equal share

of the cost of assets being assigned to expense each year over the service life of the assets. A service life is the period of time during which depreciable plant [and equipment] is in service.[12] Annual depreciation expense is a cost included in a public utility's revenue requirement.

Q. How is the annual depreciation expense calculated?

A. Annual depreciation expense is calculated by applying a depreciation rate to plant balances. The resulting expense (also called accrual) is charged, just as any other expense, to the revenue requirement and from there it is charged to the utility's customers.

Q. Is it true that depreciation is a non-cash expense?

A. Yes. Depreciation is a non-cash expense in contrast to payroll expense, for example, which involves the current outlay of cash. That is, depreciation expense does not involve a specific payment during the test-year. Both depreciation and payroll are included as expenses in the income statement and revenue requirement, but no cash flows out of the company for depreciation expense. Instead of reducing the cash account, depreciation expense is recorded on the income statement as an expense and simultaneously recorded on the balance sheet in the accumulated depreciation account; which is shown as an offset to plant in service.

Q. What is the accumulated depreciation account?

[12] Public Utility Depreciation Practices, August, 1996. National Association of Regulatory Utility Commissioners ("NARUC Manual"), p. 321.

A. Accumulated depreciation (sometimes called reserve) is, in essence, a record of the previously recorded depreciation expense; at any point in time, the accumulated depreciation account represents the net accumulated amount of the original cost of assets and net salvage that has been recovered to date. It can be considered a measure of the depreciation recovered from ratepayers.

Q. Does the fact that depreciation is a non-cash expense render it any less legitimate than any other expense?

A. Depreciation is a legitimate expense. However, since it is based on a substantial amount of judgment and complex analytical procedures, the measurement of depreciation and the calculation of the expense warrant careful consideration.

Q. What is the objective of depreciation expense?

A. For public utilities, the objective of depreciation is straight-line capital recovery. As stated above, this is accomplished by allocating the original cost of assets to expense over the lives of those assets through the application of depreciation rates to plant balances.

Q. How does APS determine its annual depreciation rates?

A. APS' depreciation rates are founded upon three fundamental parameters: a service life, a dispersion pattern and a net salvage ratio. APS used the remaining life technique to compute its proposed rates.

Q. Would you please explain how the rates were calculated?

A. Yes. In order to understand remaining-life depreciation, it is useful to first address whole-life depreciation.

Q. Please explain the whole-life technique.

A. The following calculation shows a straight-line whole-life depreciation rate assuming a 10-year average service life and zero ("0") percent net salvage.

Table 1

Straight-Line Whole-Life Depreciation Rate
Assuming 10-Year Life and 0% Net Salvage

$$\frac{100\%-(0\%)}{10 \text{ yrs.}} = 10.0\%$$

Each year the 10.0 percent depreciation rate would be applied to plant in service to produce an annual depreciation expense.

Q. What happens if you include net salvage in the calculation?

A. I will use negative net salvage as an example. Negative net salvage is the net cost of removal of the asset after completion of its service life. For the remainder of the testimony I use the terms negative net salvage and cost of removal interchangeably. Assume a negative 5 percent (-5%) net salvage ratio. The equation above with a value for negative net salvage is as follows:

Table 2

Straight-Line Whole-Life Depreciation Rate
Assuming 10-Year Life and -5% Net Salvage

$$\frac{100\%-(-5\%)}{10 \text{ yrs.}} = 10.5\%$$

Negative net salvage increases the resulting whole-life depreciation rate from 10.0% to 10.5%.

Q. Why does negative net salvage increase the depreciation rate?

A. It increases the depreciation rate because negative salvage is, in effect, added to the original cost of the plant. Instead of 100% (which represents the original cost of assets), the numerator becomes 105%. This is equivalent to capitalizing or adding the estimated cost of removal to the original cost of the asset.

Q. Please explain the remaining-life technique.

A. The remaining-life technique is similar to the whole-life technique, but it incorporates accumulated depreciation into the numerator of the equation, and the denominator becomes the remaining life rather that the whole life of the asset.

If the hypothetical 10-year asset is 3 years old, its remaining life would be 7 years (10 – 3 = 7). The accumulated depreciation account would be 31.5 percent of the original cost because the 10.5 percent depreciation rate from Table 2 would have been applied for three years (3 x 10.5% = 31.5%). The remaining life depreciation rate would then be calculated as follows:

Table 3

Straight-Line Remaining Depreciation Life Rate
Assuming 10-year Life, 7-year Remaining Life
And -5% Net Salvage

$$\frac{100\% - (-5\%) - 31.5\%}{7 \text{ years}} = 10.5\%$$

Q. Please explain why the whole-life depreciation rate in Table 2 and the remaining life depreciation rate in Table 3 are both 10.5 percent?

A. In these examples the remaining life depreciation rate and the whole-life depreciation rates are the same (10.5 percent), because I have assumed that the accumulated depreciation account is in balance. In other words, exactly the right amount of depreciation (31.5 percent) has been collected in the past, based on a continuation of the fundamental parameters, i.e., the 10-year service life and the negative 5 percent net salvage ratio.

Q. What would happen if either of these fundamental parameters were to change?

A. If either the service life or net salvage parameter changes during the life of the plant, the accumulated depreciation account will be out of balance, and the remaining life rate will be either higher or lower than whole-life rate depending on the direction of the imbalance. That is because the Company will have collected either too much depreciation or not enough depreciation in the past, given the current estimates of lives or future net salvage.

Q. Is there anything unique about public utility depreciation?

A. Yes. There are three unique factors driving public utility depreciation rates. First, public utility depreciation is based on a “group life” as opposed to the lives of individual assets. Second, the cost of removing or disposing of an asset that is retired from service is charged to the accumulated depreciation reserve, as opposed to being recognized as an operating cost in the year incurred. Third, the original cost of a retired asset is also recorded in the accumulated depreciation reserve, as opposed to being written off in the year of the asset’s

retirement/disposal. Each of these factors affect the depreciation rates that are ultimately determined for the group of assets that are recorded in plant accounts designated by the FERC Uniform System of Accounts ("USOA").

Q. Please explain the concept of group life depreciation.

A. Depreciation expense is one of the primary cost drivers of public utility revenue requirement calculations because these companies are capital intensive. An excessive depreciation rate can unreasonably increase the utility's revenue requirement and resulting service rates; thereby unnecessarily charging millions of dollars to a utility's customers.

Given the capital intensity of the industry, it is impossible to track and depreciate every single asset that a utility owns. Utilities own millions of assets, represented by millions of dollars of investment. Public utility depreciation is, therefore, based on a group concept, which relies on averages of the service lives and remaining lives of the assets within a specific group.

These factors are necessarily estimates of the average service lives and average remaining lives of groups of assets. These estimates are in turn based on complex analytical procedures, which involve not only the age of existing and retired assets, but also retirement dispersion patterns called "Iowa curves."

I will discuss all of these in more detail later in my testimony. The important point to remember is that service life, average age and Iowa curves are all used in the estimation of an average service life and average remaining life of

a group of assets and are ultimately used to calculate the depreciation rate for that group of assets.

Q. Would you please relate these fundamentals to the issues in this proceeding?

A. Yes. In depreciation analysis it is axiomatic that the shorter the life, the higher the resulting depreciation rate. Several of APS' proposed depreciation rates are too high because they are based on lives which are too short. The following table shows the impact of a shorter life.

Table 4

Impact of Lives on Depreciation Rates

30 year life = 100%/30 = 3.3%

10 year life = 100%/10 = 10.0%

The shorter the life, the higher the rate. If the life is too short, the resulting rate is obviously excessive.

Q. Is there any other reason that APS' depreciation rates are excessive?

A. Yes, most of APS' proposed depreciation rates contain negative net salvage allowances which collect too much for future cost of removal and thus are far too negative. They result in excessive depreciation rates. The next table shows the impact on depreciation rates of increasing the cost of removal ratio:

Table 5

Impact of Increasing Cost of Removal Ratio

-5% ratio = 100 %-(-5)/10 = 10.5 %

-50% ratio = 100 %-(-50)/10 = 15.0 %

Increasing a cost of removal ratio from -5% to -50% increases the depreciation rate from 10.5% to 15.0%. If the estimated -50% cost of removal ratio is not supportable; obviously, the resulting 15.0% depreciation rate is excessive. The combination of these two factors, i.e., understated lives and overstated cost of removal ratios, compounds the excessive depreciation rate problem.

Excessive Depreciation

Q. What is an excessive depreciation rate?

A. An excessive depreciation rate is one that produces depreciation expense which is more than necessary to return a company's capital investment over the life of the asset.

Q. Have any courts addressed the concept of excessive depreciation?

A. Yes, the concept of excessive depreciation was explained by the U.S. Supreme Court in a landmark 1934 decision, Lindheimer v. Illinois Bell Telephone Company, as follows:

> If the predictions of service life were entirely accurate and retirements were made when and as these predictions were precisely fulfilled, the depreciation reserve would represent the consumption of capital, on a cost basis, according to the method which spreads that loss over the respective service periods. But if the amounts charged to operating

> expenses and credited to the account for depreciation reserve are excessive, to that extent subscribers for the telephone service are required to provide, in effect, capital contributions, not to make good losses incurred by the utility in the service rendered and thus to keep its investment unimpaired, but to secure additional plant and equipment upon which the utility expects a return.
>
> Confiscation being the issue, the company has the burden of making a convincing showing that the amounts it has charged to operating expenses for depreciation have not been excessive. That burden is not sustained by proof that its general accounting system has been correct. The calculations are mathematical, but the predictions underlying them are essentially matters of opinion. They proceed from studies of the behavior of large groups of items. These studies are beset with a host of perplexing problems. Their determination involves the examination of many variable elements and opportunities for excessive allowances, even under a correct system of accounting, [are] always present. The necessity of checking the results is not questioned. The predictions must meet the controlling test of experience.[13]

Q. Are you providing this as a legal opinion?

A. No. I provide this to illustrate that the concept of an excessive depreciation rate is not new.

Q. What is the effect of an excessive depreciation rate?

A. Excessive depreciation rates produce excessive depreciation expense. In other

[13] Lindheimer v. Illinois Bell Telephone Company, 292 U.S. 151, 168-170, 54 S.Ct. 658, 665-666 (1934). (Emphasis added; footnote deleted.)

words if an excessive depreciation rate is applied to the plant balance, it results in excessive depreciation expense. Since depreciation expense flows dollar-for-dollar into the revenue requirement, excessive depreciation expense results in an excessive revenue requirement.

Q. Who pays for excessive depreciation rates?

A. Ratepayers pay for excessive depreciation rates.

Q. Why are APS' depreciation rates excessive?

A. As explained above, they are excessive for two fundamental reasons. First they are based on lives which are too short; and second, they have been increased to provide for an unsupportable allowance for future negative net salvage.

Q. How will you address these issues?

A. Ordinarily, I would discuss lives and life study approaches first. However, due to the magnitude of the negative net salvage difference between the Company and my analysis, I will discuss negative net salvage first.

Net Salvage

Q. Did Mr. Wiedmayer include net salvage ratios in his depreciation rate calculations?

A. Yes.

Q. Is net salvage a significant issue in this proceeding?

A. Yes, it is.

Q. Please explain why.

A. It is significant because Mr. Wiedmayer has bundled inappropriate cost of removal factors in his proposed depreciation rates. If those rates are approved, the result will be that current ratepayers will pay for future inflation to costs that will not be incurred. In order to fully address this issue, I will approach it in the following manner. First I will address SFAS No. 143 and asset retirement obligations. This will be followed by a discussion of FERC Order No. 631. Next, I will discuss production plant dismantlement costs. Finally, I will discuss the net salvage ratios included in Mr. Wiedmayer's transmission, distribution and general plant depreciation rates.

Financial Accounting Standards Board's Statement of Financial Accounting Standard No. 143

Q. What is the Financial Accounting Standards Board?

A. The Financial Accounting Standards Board ("FASB") is a standards-setting body for the public accounting profession.

Q. What is SFAS No. 143?

A. SFAS No. 143 is a recent FASB pronouncement concerning the appropriate accounting for long-lived assets. Pursuant to SFAS No. 143 all companies (including APS) must review all of their long-lived assets to determine whether or not they have actual legal obligations to remove retired assets. For some plant and equipment, public utilities have a legal obligation to remove the asset at the end of the service life. These legal obligations for future removal are called asset retirement obligations ("AROs"). For other assets, no such obligation exists.

If a company does have an ARO, the net present value of the future retirement cost is considered to be part of the original cost of the asset. It is therefore capitalized (included in the original cost) and depreciated over the life of the asset. Hence, for assets with AROs, the accumulated depreciation account would equal the plant balance at the end of the asset's life. In other words, when AROs exist total depreciation expense would incorporate the cost of future removal. Total depreciation would equal the total recorded cost of the end of the asset's life.

If, however, a company does not have such legal obligations, the future cost of removal will not be capitalized and will not be included in depreciation expense. Therefore, for assets without AROs, at the end of the asset's life, the accumulated depreciation account will equal the plant balance because only the original cost of the asset will have been depreciated. In other words, there is symmetry between assets with and without AROs. In both cases, the accumulated depreciation will equal the original cost of the asset at the end of its life.

Q. How are AROs measured?

A. AROs are measured at their net present value, not their inflated future value.

Q How are AROs recorded on the books?

A. As stated above, AROs are capitalized as a cost of the related asset and concomitantly recorded as a liability for those companies with a legal obligation to remove a retired asset. Each year, as the liability increases due to inflation,

the increase is charged to accretion expense and credited to the liability, but the asset value remains the same. In other words, just as the original cost of the asset does not increase, neither does the capitalized asset retirement cost.

Q. What happens if a company does not have an asset retirement obligation pursuant to SFAS No. 143?

A. As explained above, if a company does not have such obligations, the future cost of removal is not considered as a cost of the asset, and therefore it will not be included in the company's depreciation expense on its general purpose financial statements. SFAS No. 143, therefore, unbundles net salvage from depreciation rates. It does this in two ways. Either by incorporating the net present value of an ARO in the cost of the asset, or by excluding non-AROs from the depreciation rate calculations.

Q. What is the accounting impact of SFAS No. 143 for electric utilities?

A. Under Generally Accepted Accounting Principles ("GAAP"), electric utilities will be required to review all of their assets to determine if they have any AROs. They will also be required to determine the amount of any prior cost of removal collections relating to non-AROs that is now included in their accumulated depreciation accounts. These latter amounts and any such future charges to ratepayers will be recorded as a regulatory liability to ratepayers.

Q. Has APS implemented SFAS No. 143?

A. Yes. The Company implemented SFAS No. 143 on January 1, 2003.[14]

[14] Rockenberger, page 19, line 4.

Q. Does the Company have any asset retirement obligations pursuant to SFAS No. 143?

A. Yes. Upon review, the Company found that the Palo Verde (including the Palo Verde sale leaseback), Four Corners, Navajo and Childs Irving generating plants had retirement obligations generally relating to final plant decommissioning or removal costs based on regulatory or contractual requirements as estimated and recorded as of January 1, 2003.[15] APS also has some AROs related to transmission and distribution plant, but as the timing of these obligations cannot be determined, no ARO has been recorded.[16]

Q. Has APS recorded any impacts related to SFAS No. 143 on its books?

A. Yes. As discussed above, "APS recorded a liability of $219 million for its asset retirement obligations including accretion impacts; a $67 million increase in the book value of the associated assets; and a net reduction of $192 million in accumulated depreciation related primarily to the reversal of previously recorded accumulated decommissioning and other removal costs relating to these obligations."[17]

APS also recorded a regulatory liability of $40 million for its asset retirement obligations, representing the cumulative timing differences between

[15] Rockenberger, page 19.
[16] Id., page 20.
[17] Id., page 21.

the amounts previously recovered in regulated rates in excess of the amount calculated under SFAS No. 143."[18]

Q. Why did APS record the $40 million regulatory liability?

A. According to Ms. Rockenberger, the purpose of the regulatory liability is "to make the implementation of the new standard revenue neutral, so that the timing differences in the accounting would not increase or decrease APS' overall revenue requirement."[19]

Q. Does the Company make any additional requests regarding the implementation of SFAS No. 143 for asset retirement obligations?

A. The Company has requested that the Commission insert the following specific language in its decision in this proceeding:

> The Commission approves APS' request that the application of SFAS No. 143 be revenue neutral in the rate making process and authorizes APS to place all impacts to its income statement caused by the adoption of SFAS No. 143 in regulatory accounts. Those impacts include the cumulative adjustment as of January 1, 2003 and ongoing expense recognition impacts.[20]

Q. Why would APS request such language?

A. In my opinion, APS is requesting this language because it is aware that it does not have AROs for a majority of its assets but it has a substantial amount future inflated cost of removal included in its accumulated depreciation account and in

[18] Rockenberger, page 21, lines 18–24.
[19] Rockenberger, page 22.
[20] Rockenberger, page 22.

its current and proposed depreciation rates. The elimination of this recovery in accordance with the principle SFAS No. 143 will lead to a significant reduction in APS' depreciation expense. Consequently, it seeks a revenue neutral application of SFAS No. 143.

Q. Do you agree with APS' request for revenue-neutral language?

A. No.

Q. Does the Company discuss its plans for the treatment of removal costs that are unrelated to asset retirement obligations?

A. Yes. The Company plans to continue to include these costs "in the calculation of the depreciation accrual and accumulated depreciation in the same manner as it was prior to January 1, 2003, consistent with current ratemaking treatment."[21] In fact, APS requests the Commission include specific language in its decision related to this issue, as such:

> The Commission also approves APS' request that removal costs for assets that do not have an asset retirement obligation continue to be reflected in the depreciation accrual and accumulated depreciation.[22]

Q. Do you agree with the Company's treatment of these types of removal costs?

A. No. The Company's proposal violates the principles and fundamentals of current Generally Accepted Accounting Principles ("GAAP") regarding cost, capital

[21] Id., page 21.
[22] Id., page 22.

recovery, and cost of removal. APS' approach, which bundles future net salvage ratios in depreciation rates, results in the anomalous result of an accumulated depreciation account which exceeds the actual plant balance at the end of the plant life as I explained in the depreciation concepts section.

FERC Reporting

Q. Does APS file depreciation studies with FERC?

A. No. APS has not filed depreciation studies with FERC in the last ten years and [according to APS] there are no current FERC requirements to file depreciation studies with FERC.[23]

Q. Are there any differences between the depreciation rates the Company uses for FERC reporting and those it uses for ratemaking purposes?

A. No. According to the response to MJM 1-54, "the Company uses the same depreciation rates for FERC reporting and ratemaking purposes as it does for intrastate reporting and ratemaking purposes." [24]

FERC Order No. 631

Q. What is the impact of SFAS No. 143 on electric regulatory accounting?

A. The impact on regulatory accounting for electric utilities is that SFAS No. 143 evolved into FERC Order No. 631 in Docket RM02-7-000. FERC Order No. 631 resulted in changes to the USOA to incorporate the principle of SFAS No. 143.

Q. How did SFAS No. 143 evolve into FERC Order No. 631?

[23] Response to MJM 1-53.
[24] Response to MJM 1-54.

A. SFAS No. 143 was initiated in 1994 as a result of a request by the Edison Electric Institute. Subsequent to that initiation, the accounting community went through several iterations of proposals and comments to finally arrive at SFAS No. 143. FERC established Docket No. RM02-7-000 as a result of SFAS No. 143. This docket has included a Technical Conference, Comments, a Notice of Proposed Rulemaking ("NOPR"), Additional Comments and ultimately, Order No. 631, on April 9, 2003. Exhibit___(MJM-4) is a document I wrote to track the progress of SFAS No. 143 into FERC Order No. 631. It primarily addresses net salvage as it relates to non-ARO assets, since that is the subject in dispute.

Q. What is the thrust of Order No. 631?

A. Order No. 631 essentially adopts SFAS No. 143 and then integrates it into the Uniform System of Accounts.

Q. Does Order No. 631 require electric utilities to review their long-lived assets to determine whether they have any AROs?

A. Yes. Order No. 631 adopts SFAS No. 143, which already obligates electric utilities, among others, to review their long-lived assets to determine if they have any AROs.

Q. Is the Order No. 631 review the same as the review APS has already performed under SFAS No. 143 in which it determined that it has AROs for some of its production plant?

A. Yes, it is.

Q. What are the implications of Order No. 631 in situations where electric utilities do not have AROs?

A. FERC Order No. 631 defines cost of removal allowances for which there is no legal asset retirement obligation, as "non-legal retirement obligations." Past and future "non-legal AROs" must be specifically identified and accounted for separately in the depreciation studies, depreciation expense and the accumulated depreciation account.

In Order No. 631, FERC established new requirements for non-legal AROs, as follows:

> Instead, we will require jurisdictional entities to maintain separate subsidiary records for cost of removal for non-legal retirement obligations that are included as specific identifiable allowances recorded in accumulated depreciation in order to separately identify such information to facilitate external reporting and for regulatory analysis, and rate setting purposes. Therefore, the Commission is amending the instructions of accounts 108 and 110 in Parts 101, 201 and account 31, Accrued depreciation - Carrier property, in Part 352 to require jurisdictional entities to maintain separate subsidiary records for the purpose of identifying the amount of specific allowances collected in rates for non-legal retirement obligations included in the depreciation accruals.[25]

Q. Does FERC provide any additional insight as to the interpretation of these new rules?

A. Yes, FERC also states:

[25] FERC Docket No. RM02-7-000, Order No. 631, Issued April 9, 2003, Paragraph 38.

> Jurisdictional entities must identify and quantify in separate subsidiary records the amounts, if any, of previous and current accumulated removal costs for other than legal retirement obligations recorded as part of the depreciation accrual in accounts 108 and 110 for public utilities and licensees, account 108 for natural gas companies, and account 31 for oil pipeline companies. If jurisdictional entities do not have the required records to separately identify such prior accruals for specific identifiable allowances collected in rates for non-legal asset retirement obligations recorded in accumulated depreciation, the Commission will require that the jurisdictional entities separately identify and quantify prospectively the amount of current accruals for specific allowances collected in rates for non-legal retirement obligations."[26]

Q. Does FERC make any policy calls concerning the appropriate treatment of the disposition of prior and future collections contained in these separate allowances?

A. No. FERC declines to make such calls on a policy basis. FERC will resolve the appropriate treatment of the dispositions of prior and future collections on a case-by-case basis. Specifically, FERC states:

> "The Commission will decline to make policy calls concerning regulatory certainty for disposition of transition costs, external funds for amounts collected in rates for asset retirement obligations, adjustments to book depreciation rates, and the exclusion of accumulated depreciation and accretion for asset retirement obligations from rate base; these are matters that

[26] Id., Paragraph 39.

> are not subject to a one size fits all approach and are better resolved on a case-by-case basis in rate proceedings. The Commission is of the view that utilities will have the opportunity to seek recovery of qualified costs for asset retirement obligations in individual rate proceedings. This rule should not be construed as pregranted authority for rate recovery in a rate proceeding."[27]

Q. Does FERC's Order require anything new or more with respect to its requirement for detailed depreciation studies?

A. No. FERC states:

> "Finally this rule requires nothing new and nothing more with respect to the requirement for a detailed study. Complex depreciation and negative salvage studies are routinely filed or otherwise made available for review in rate proceedings. When utilities perform depreciation studies, a certain amount of detail is expected. It is incumbent upon the utility to provide sufficient detail to support depreciation rates, cost of removal, and salvage estimates in rates.45." [28]

And footnote 45 states:

> "When an electric utility files for a change in its jurisdictional rates, the Commission requires detailed studies in support of changes in annual depreciation rates if they are different from those supporting the utility's prior approved jurisdictional rate."[29]

Thus, FERC recognizes distinctions between legal and non-legal AROs just as

[27] Id., Paragraph 64. (Emphasis added.)
[28] Id., paragraph 65.
[29] Id., footnote 45.

SFAS No. 143 recognizes those distinctions. In fact, the amount resulting from Order No. 631's requirement to identify previous amounts collected for non-legal AROs should result in the same amounts as the SFAS No. 143 requirement to establish a regulatory liability to ratepayers. It is also clear, that on a going-forward basis, jurisdictional entities must be prepared to specifically identify and justify any non-legal AROs that they propose to include in rates.

Q. What is the most important aspect of Order No. 631?

A. The most important aspect of Order No. 631 is its requirement to separate or unbundle non-legal cost of removal allowances from depreciation rates.

Q. How much prior collections are included in APS' accumulated depreciation account?

A. APS' response to MJM-82 indicates that it has already collected $364.6 million from its customers for future cost of removal.

Q. Is APS proposing to include any additional future removal costs in its depreciation rates?

A. Yes. APS' depreciation rates are designed to collect an annual amount of about $31.6 million for future removal costs.[30] It would do this by bundling net salvage ratios in depreciation rates. This amount would fluctuate based on changes in plant balances.

Q. Does APS' proposal comply with FERC Order No. 631?

[30] Difference between APS' proposed depreciation expense with and without Gannett Fleming net salvage proposals.

A. APS' proposal does not comply with FERC Order No. 631. APS has already implemented SFAS No. 143. The removal costs it proposes to recover through depreciation rates are "non-legal AROs". Order No. 631 requires that these be accounted for separately as a specifically identifiable allowance. I have estimated these amounts, but they are not set forth in specifically identifiable allowances. They are bundled into depreciation rates.

Q. What is your reaction to APS' filing?

A. My reaction is that even though APS has implemented SFAS No. 143 and apparently Order No. 631, it is proposing to charge much more to its ratepayers for non-legal AROs than it would if it actually had legal obligations to remove these assets.

Q. Has APS been uniform in its approach to estimating these non-legal AROs?

A. No. APS' removal costs for the production plant units were based on site-specific estimates which Gannett Fleming then inflated to the anticipated retirement date of each unit.[31] The estimated removal costs for the transmission, distribution and general functions were based on historical summaries. First, I will discuss the production plant decommissioning estimates. Then, I will address the transmission, distribution and general net salvage estimates.

Production Dismantlement Costs

Q. Has APS built decommissioning costs for its production plant into its depreciation rates?

[31] Attachment LLR-4, page II-31.

A. Yes. APS has included negative net salvage ratios in its steam, nuclear and other production plant depreciation rates. While the Company does not include a net salvage ratio in its depreciation rates for hydraulic plant, it does request specific decommissioning costs related to this plant.

Q. Do you agree with APS' inclusion of these decommissioning costs in its depreciation rates?

A. I disagree with the Company's production plant decommissioning proposals for its steam, nuclear and other plant. The Company has already implemented SFAS No. 143 and recorded the impacts on its books. Any remaining decommissioning should be related to non-legal AROs, and as will be discussed below, should not be included in depreciation rates. Furthermore, as shown on Schedule 1 of Attachment LLR-4, the Company has included a net salvage component in the depreciation rates for plants it has identified as having AROs. This could indicate a double count of decommissioning costs for these plants.

Q. Please explain the Company's proposal for hydraulic plant.

A. In 1999 the Company entered into an agreement to decommission the Childs-Irving hydro plant and to restore the waters to Fossil Creek by 2004. Previously, APS had intended to renew the plants' operating licenses for an additional 30 years. As such, the Company did not include decommissioning costs in the previous depreciation study. APS took additional depreciation of over $8 million related to the decommissioning of these plants over the years 2000-2002. In the current case, APS requests that the difference between the estimated

decommissioning cost of $13.2 million and the book reserve of $7.9 million be amortized over the upcoming two year period.[32] The resulting annual amount of $2.7 million is included in the depreciation study. No other depreciation expense is being collected for hydro plant.

Q. Do you agree with the Company's handling of the hydro decommissioning costs?

A. I do not agree with the Company's treatment of hydro decommissioning costs. It has AROs for the investment. I have, however, accepted the Company's amortization because I believe it approximates the amount that would result from the appropriate ARO treatment.

Non-Production Plant Net Salvage Estimates

Q. What is net salvage?

A. Plant and equipment is retired from service at the end of its useful life. Sometimes the retired plant and equipment may be physically removed and can be resold for value. This is called gross salvage. In more technical terms, gross salvage is the amount recorded for the property retired due to the sale, reimbursement, or reuse of the property. Cost of removal is the cost incurred in connection with the retirement from service and the disposition of depreciable plant.[33] Net salvage is the difference between gross salvage and cost of removal.

[32] Response to MJM 1-3.
[33] NARUC Manual, pages 320 and 317.

Q. Does APS propose to charge net salvage to ratepayers for its non-production plant accounts?

A. Yes. APS has included negative net salvage ratios in most of its proposed transmission and distribution plant depreciation rates, as well as the depreciation rate for one of its general plant accounts. As explained in the depreciation concepts sections of this testimony, negative future net salvage ratios increase depreciation rates.

Q. How did APS estimate its proposed future net salvage ratios?

A. Mr. Wiedmayer prepared summaries of annual retirements and net salvage, which he used as a basis for his future net salvage proposals. The following table is a hypothetical example of Mr. Wiedmayer's net salvage studies.

Table 6

Hypothetical Net Salvage Study

	Original Cost	Cost of Removal	
Year	**Retired Asset**	**($)**	**(%)**
(a)	(b)	(c)	(d)=(c)/(b)
1997	1,000	(500)	(50)%
1998	2,000	(1,500)	(75)
1999	2,500	(1,000)	(40)
2000	3,000	(2,500)	(83)
2001	4,000	(5,000)	(125)
Total	12,500	(10,500)	(84)%
3-year Avg.	3,167	(2,833)	(89)%
5-year Avg.	2,500	(2,100)	(84)%

Q. Please explain this table.

A. The years in column (a) are the years in which the assets in column (b) were retired. These assets had originally been placed in service several years before they were retired. In other words they were added to plant in service several years ago, they lived their service life, and then they were retired or withdrawn from service. The cost of removal amounts in column (c) are the costs incurred in connection with the retirement from service and the disposition of the assets. In other words, an asset that originally cost $4,000 several years earlier was retired from service in 2001. It cost $5,000 to retire and dispose of that asset in 2001. The ratios in column (d) are the cost of removal amount expressed as a percentage of the original cost of the assets.

Q. How did Mr. Wiedmayer use these figures to estimate his future net salvage ratios?

A. Mr. Wiedmayer considered rolling 3-year averages, the most recent 5-year average and overall average in making his decision. He also adjusted his net salvage estimates for some transmission and distribution plant accounts to account for reuse of materials.

Q. Why did Mr. Wiedmayer adjust his net salvage analysis to account for reuse of materials?

A. As described on page II-30 of Attachment LLR-4, “Many transmission and distribution plant accounts experience high levels of reuse salvage, i.e., materials returned to stores during the early portion of a group’s life cycle.” “However, as the group ages, the ability to reuse materials decreases and ultimately ceases.”

"As a result of inflation, most of the original cost retired relates to relatively young plant which can be reused. Thus, the analysis of gross salvage provides an indication that only would be correct if such plant was capable of being reused throughout its life cycle."[34]

Q. How did Mr. Wiedmayer adjust his net salvage analysis for reuse salvage?

A. Mr. Wiedmayer estimated the age beyond which plant will not be reused, determined the percent surviving at that age and weighted the experienced gross salvage indication by 100 percent less the percent surviving, the percent retired.

Q. What was the effect of this adjustment?

A. The overall effect of the adjustment was to change the net salvage percent for each account adjusted from a positive figure to, in most cases, a negative figure and thus increase the depreciation rate. Mr. Wiedmayer then used judgment to assign a future net salvage percent to each of these accounts.[35]

Q. Do you agree with this adjustment?

A. I do not agree with the adjustment. To be intellectually consistent, Mr. Wiedmayer should have correspondingly lengthened the lives in these accounts. However, my disagreement is a moot point as I do not agree with Mr. Wiedmayer's net salvage analysis as a whole. As will be discussed below, Mr. Wiedmayer's approach results in a mismatch of dollars, leading to unreasonable net salvage ratios. Mr. Wiedmayer recognizes this mismatch in one area in his

[34] Attachment LLR-4, page II-30.
[35] Attachment LLR-4, page II-32.

decision to adjust his salvage analysis. Furthermore, Mr. Wiedmayer's chosen net salvage ratios do not reflect the results of his adjustment, in most cases they are far too negative.

Q. His reuse adjustment aside, does Mr. Wiedmayer's net salvage approach result in an increase to depreciation rates?

A. Yes, it does. Net salvage ratios developed in this fashion depend on the relationship of the cost of removal as a percentage of the original cost of the assets retired, as shown above. This relationship results in a negative net salvage ratio which is bundled into the depreciation rate calculation as shown in the concepts section of this testimony. Since the ratio is negative, it increases the resulting depreciation rate. This is also demonstrated in the concepts section.

Q. Is this approach problematic?

A. Yes. The hypothetical retirements shown above are in very old original cost dollars. This approach is problematic due to the mismatch in the value of dollars between the years the assets were installed and the years they are retired. For example, assume that the $4,000 of assets retired in 2001 were actually placed in service in 1951 or 50 years ago. The cost of removal in 2001 dollars is $5,000, or 125 percent, of the 1951 addition.

Q. Please explain what caused the result to be negative 125 percent.

A. The result is negative 125 percent because the $5,000 cost of removal has experienced 50 years of inflation. If we assume the inflation rate has been 5

percent annually, the cost of removal in 50-year old dollars is only $436 or 11 percent of the original $4,000 installation. Mr. Wiedmayer's approach, however, shows 125 percent as a result of this mismatch. The same disparity would be true for all other years in the example. There is a fundamental mismatch between the dollars associated with the installation dates of the assets and the dates they are removed from service.

Q. How would Mr. Wiedmayer use this ratio?

A. Mr. Wiedmayer would use a negative 125 percent ratio in the depreciation rate calculation. As I explained in the concepts section, this approach is equivalent to capitalizing 125 percent of the existing plant in service. The example above addresses only retirements. But at the same time, as explained in the concepts section, the actual plant balance has been growing for many reasons. The hypothetical company has been making additions every year due to growth, and these additions have also experienced inflation. Assume the current total plant balance in this account is $100,000,000. Mr. Wiedmayer would calculate depreciation rates designed to collect $225,000,000 from ratepayers, i.e. $125,000,000 more than the company spent on the plant, and this would be based on a $4,000 retirement.

Q. Do APS' net salvage studies suffer from this mismatch?

A. Yes, APS' net salvage studies suffer from a mismatch in the value of dollars between the installation and removal dates of their retired assets. This mismatch leads, and has lead in the past, to exorbitant current charges to current

ratepayers for inflated future cost of removal. If such amounts are to be recovered, only the present value should be recovered from current ratepayers as is done for AROs.

Q. Is there a simple explanation for the exorbitant current charges?

A. Yes, APS' future net salvage ratios are inflated, but not reduced to their net present value. They result in excessive cost of removal charges because these inflated net salvage ratios are applied to current plant balances. Thus, current ratepayers pay for inflated removal costs that are not expected to occur.

Q. Is there a way to visualize this?

A. Yes, consider the examples in the depreciation concepts section of this testimony. If you recall, I showed the difference in depreciation rates resulting from a negative 5 percent net salvage ratio versus a negative 50 percent net salvage ratio. It increased the resulting rate substantially. If the actual cost of removal in today's dollars is only 5 percent, then the increased depreciation rate resulting from the inclusion of future inflation results in today's ratepayers being charged for inflation that has not even occurred. The proper approach is to use the negative 5 percent present value, not the negative 50 percent inflated value, of the cost of removal.

Q. How much future net salvage is incorporated in the Company's depreciation request?

A. Because the amount varies with changes in plant balances, it is difficult to determine the precise amount of net salvage. I estimate however, that there is a

minimum of $31.6 million of annual **negative** net salvage charges included in APS' overall depreciation request.

Q. How much actual net salvage has the Company been experiencing?

A. Over the five years ending 2002 the Company has experienced $1.1 million in **positive** net salvage on average. This is shown in the net salvage section of Exhibit___(MJM-3).

Q. What do you make of the level of cost of removal in the Company's proposal?

A. The Company is proposing to collect approximately $31.6 million annually for a cost which averages to a **positive** $1.1 million annually. That is a substantial mismatch.

Q. Are you familiar with APS' approach?

A. Yes. In the past, many utilities have used this approach. Furthermore, it seems to be the recommended approach in the NARUC's 1996 Public Utilities Depreciation Practices Manual. On the other hand, the manual also states:

> "Some commissions have abandoned the above procedure [gross salvage and cost of removal reflected in depreciation rates] and moved to current-period accounting for gross salvage and/or cost of removal. In some jurisdictions gross salvage and cost of removal are accounted for as income and expense, respectively, when they are realized. Other jurisdictions consider only gross salvage in depreciation rates, with the cost of removal being expensed in the year incurred."[36]

[36] NARUC Manual, page 157.

The NARUC depreciation manual further opines on the underlying rationale for treating removal cost as a current-period expense, instead of incorporating it in depreciation rates:

> "It is frequently the case that net salvage for a class of property is negative, that is, cost of removal exceeds gross salvage. This circumstance has increasingly become dominant over the past 20 to 30 years; in some cases negative net salvage even exceeds the original cost of plant. Today few utility plant categories experience positive net salvage; this means that most depreciation rates must be designed to recover more than the original cost of plant. The predominance of this circumstance is another reason why some utility commissions have switched to current-period accounting for gross salvage and, particularly, cost of removal."[37]

Setting aside ratemaking, one of the mechanical problems with this approach is that it can result in a depreciation reserve actually exceeding the gross plant balance. That is because, as I explained in the depreciation concepts section, the depreciation rate is more than necessary to fully depreciate the plant. Therefore, at the end of its life, the accumulated depreciation account exceeds the plant account balance. This is one of the reasons I believe that APS' approach is inconsistent with fundamentals and principles of current practices regarding cost, capital recovery, and cost of removal. The accumulated depreciation and depreciation expense should be designed to recover the

[37] Id., page 158.

original costs, not something more.

Separation

Q. What do you recommend?

A. First, since these are "non-legal" AROs, they must be accounted for as specifically identified allowances within depreciation expense and accumulated depreciation. In other words, they must be separated from other depreciation expenses.

Measurement

Q. How should these allowances be calculated?

A. I recommend the Pennsylvania Public Utility Commission's normalized net salvage allowance approach to determine the annual amount of the allowance. This is based on the average of the most recent 5 years worth of actual net salvage activity shown in APS' depreciation study. Net salvage is treated just as any other normalized expense, except that it is charged to accumulated depreciation. The Company is ensured full recovery of its annual costs, and ratepayers are not required to pay for estimated future inflation.

This approach has the added benefit that it is simple, straight-forward and easy to implement. It conforms to FERC Order No. 631 in that the net salvage allowance is a specifically identifiable amount that can be separately accounted for in depreciation expense and the accumulated depreciation account. Furthermore, it does not treat non-legal AROs as if they were legal AROs. Using the Company's data as reported in their FERC Form 1 reports, the normalized

net salvage allowance amount would be positive $1.1 million. This is because APS actually experiences positive net salvage on average.

Q. How did you arrive at the positive $1.1 million annual net salvage allowance?

A. That is the average of the most recent 5-years worth of actual net salvage activity reported by the Company in their 1998 through 2002 FERC Form 1 reports[38], as shown in the Net Salvage Section of Exhibit___(MJM-3). The positive $1.1 million allowance is actually a normalized allowance.

Q. Do you recommend reducing the Company's depreciation expense by the $1.1 million net salvage allowance

A. No, I do not. While the Company has been experiencing positive net salvage on average for many years, it appears that a substantial portion of the positive net salvage is actually "reuse". For this reason, I am recommending a zero ("$0") net salvage allowance in this proceeding.

Q. Please summarize your net salvage recommendations.

A. First , I recommend rejecting APS' request to include $31.6 million of cost of removal in determining the depreciation rates for its plant accounts. The Company has already collected $346.6 million for removal costs it has not

[38] FERC Form 1 reports were used to get the most up-to-date information. Mr. Wiedmayer's net salvage data only covered up to 2001. The amounts for 1998-2001 do not match Mr. Wiedmayer's amounts exactly, but they are close.

incurred.[39] This resulted from the inclusion of inflated future net salvage ratios in prior depreciation rates.

Second, APS proposes to continue to collect $31.6 million more each year even though actual average expense is a positive $1.1 million. Again, this mismatch is caused by APS' request for additional inflated future net salvage ratios in its new proposed depreciation rates.

APS' net salvage request amount is not specifically identifiable; it can only be estimated, since it is bundled into APS' proposed depreciation rates, and it will change each year as plant balances change. Considering these numbers in light of SFAS No. 143 and FERC's Order No. 631, it is impossible to even rationalize APS' $31.6 million request.

As an alternative, I am recommending an unbundled specific identifiable net salvage allowance that can be included as a component of depreciation expense and recorded in accumulated depreciation. Due to the Company's collection of positive net salvage on average, this allowance should be $0. This approach will separately identify such information to facilitate external reporting, regulatory analysis, and for rate setting purposes. My recommendation is consistent with paragraphs 36 and 38 of the FERC's Order No. 631 in its Docket No. RM02-7-000, issued April 9, 2003.

Q. What significant numbers are involved in the net salvage issue?

[39] Response to MJM 2-82.

A. In my opinion there are three very significant numbers. The first is the $354.6 million APS has already charged to customers. The second is the amount of inflated estimated future cost of removal bundled in Mr. Wiedmayer's depreciation rates for all functions, i.e., including production. The third is its actual recent experience. These amounts are listed below:

Table 7

Net Salvage Amounts	Annual Amount
Included in Depreciation Reserve	$ 354.6 million
Bundled in Wiedmayer Rates	$ 31.6 million
Actual Recent Experience	- $ 1.1 million

The Commission can use these three numbers to judge the reasonableness of the specific identifiable annual allowance it grants to the Company. In my opinion, the allowance should be $0. To grant the $31.6 million would be tantamount to providing APS with $31.6 million of additional before-tax return on equity each year.

Q. Does the 5-year average allowance approach you are recommending result in the abandonment of accrual accounting?

A. No. Accrual accounting is the recognition of revenue when earned and expenses when incurred. SFAS No. 143 and Order No. 631 preclude recording AROs for non-legal retirements because there is no legal obligation to incur such costs. Mr. Wiedmayer is attempting to accrue an expense for which APS has no liability. Consider that GAAP is founded upon accrual accounting, and SFAS No. 143 is GAAP.

Q. Have you made any similar recommendations in other proceedings?

A. Yes, in two recent cases the New Jersey Board of Public Utilities actually endorsed my testimony regarding SFAS No. 143. For example, in a recent case involving Rockland Electric Company the Administrative Law Judge accepted my position:

> RECO calculates its test year depreciation expense to be $5.194 million. RECO ib 128. RECO 30, Page 28-29. RECO 11A, Exhibit P-2, Page-11. The Ratepayer Advocate disputes the Company's figure and proposes a depreciation expense level of $3,864,000. Rib-74. Ratepayer Advocate witness Majoros also recommended that the amortization of the Theoretical Reserve Difference should be $1.103 million rather than the company's proposed amortization amount of $588,000. Ratepayer Advocate would exclude depreciation of the enhanced service reliability program and depreciation of post-test year plant. R-51. RJH-17.
>
> Staff determined the depreciation expense to be $3,971,000. Sib Exhibit P-2, Schedule 13-14. Staff added a 10-year average net salvage of $150,000 to the total of $3,821,100. Sib 74.
>
> The main controversy in the depreciation issue concerns net salvage and cost of removal and the interpretation of Statement of Financial Accounting Standards No. [143]. SFAS 143, paragraph B73. RECO rb Appendix 15.
>
> Ratepayer Advocate witness Michael J. Majoros expressed his opinion that the company's depreciation proposal was unreasonable. In his pre-filed testimony Witness Majoros claims the Company's proposal will produce excessive depreciation and increase the revenue requirement. He also states the company's proposal is

inconsistent with current thinking regarding cost, capital recovery and net salvage, particularly the cost of removal component of net salvage. R-36, Page 3. He traces the alleged excessive depreciation to a request for negative net salvage, which he claims, is unreasonable. R36-4. This results in an excessive revenue requirement. R-36-4. Witness Majoros recommends a depreciation expense of $3,863,900. R-36-20.

RECO witness Hutcheson disagrees with Mr. Majoros proposal and alleges that Majoros approach is a results driven exercise designed to under state depreciation rates, that he has pushed the recovery of net salvage far out into the future thereby relieving rate payers who benefit from the plant serving them today from any cost responsibility for retirement and removal of such plant. It imposes a cost on customers who never benefited from the plant to pay for its removal.

Staff concurs in part with the Ratepayer Advocate, supporting the intellectual foundation of FAS143, which supports "unbundled" depreciation rates, rates that exclude embedded cost of removal provisions. Staff would favor a cost of removal expense based upon a 10-year window of actual experience rather than the 5-year average used by the Ratepayer Advocate. Sib-74. Staff supports a $150,000 annual negative net salvage provision. Staff recommends a test year depreciation expense of $3,971,000.

I **FIND** that the Staff's test-year depreciation expense of $3,971,000 to be reasonable.[40]

[40] I/M/O Rockland Electric Company, OAL Docket Nos. PUC 07892-02 and PUC 09366-02, BPU Docket Nos. ER02080614 and ER02100724, (Initial Decision, June 10, 2003), p. 47-49.

The Board of Public Utilities further endorsed the position, modifying only the amortization period for the reserve excess:

> Based on our review of the extensive record in this consolidated proceeding, the Board has determined that the Initial Decision, subject to certain modifications, which will be set forth herein, represents an appropriate resolution of this proceeding. Accordingly, except as specifically noted below, and as will be further explained in a detailed Final Decision and Order which shall be issued, the Board HEREBY ADOPTS and incorporates by reference as if completely set forth herein, as a fair resolution of the issues in this consolidated proceeding, the Initial Decision.[41]
>
> All the parties in the base rate case agree that there is a significant excess depreciation reserve. The Company proposed a 20-year amortization of its calculated reserve excess of $11.8 million. The RPA claimed the proper reserve excess was $22.1 million, based upon the Company's asset lives, but excluding the Company's future net salvage assumptions from the depreciation rates. The RPA accepted the Company's proposal of a 20-year amortization. Both Staff and the ALJ adopted the RPA's recommendation. The Board HEREBY MODIFIES the Initial Decision so that the RPA's recommended level of excess reserve is amortized back to ratepayers over 10 years. The Board finds this to be an appropriate action in order to offset the increase associated with the deferred balances that were incurred over the 4-year transition period, as well as the increase in BGS charges for current service.[42]

[41] I/M/O Rockland Electric Company, BPU Docket Nos. ER02080614 and ER02100724, Summary Order, July 31, 2003, p. 2.
[42] Id., page 3, item 3.

In a separate proceeding involving Jersey Central Power & Light Company, the Board agreed with my position:

> Depreciation Expense. The Company is requesting a net depreciation expense annualization adjustment of $1,515,000 and total annualized depreciation expenses of $114,547,000. The Company maintains that it is complying with the terms of a June 27, 1996 stipulation ("Final Stipulation") approved by the Board, by updating the book depreciation rate computations annually for plant additions, retirement, transfers and adjustments and keeping the negative net salvage rate percentages and depreciation service lives consistent with the separate Stipulation of Settlement of Depreciation Rates, also dated June 27, 1996, which was also approved by the Board as part of the Final Stipulation. *I/M/O the Petitions of Jersey Central Power & Light Company for Approval of an Increase in its Levelized Energy Adjustment Charge, Demand Side Factor, Implementation of a Remediation Adjustment Clause (RAC) Other Tariff Changes, Recovery of Crown/Vista and Freehold Buyout Costs, Changes in Depreciation Rates, Settlement of Phase 1 of the Board's Generic Proceeding on the Recovery of NUG Capacity Payments,* Docket Nos. ER95120633, ER95120634, EM95110532, EX93060255 and EO95030398, (March 24, 1997). The Board HEREBY FINDS, consistent with the recommendations of the RPA and Staff, that the Company's inclusion of net negative salvage value in depreciation rates is inappropriate and instead, HEREBY ADOPTS utilization of a net salvage allowance of $4.8 million which is the cost of removal reflected in the Company's test-year budget for transmission, distribution and general plant. Accordingly, the Board HEREBY ADOPTS a deprecation expense

in the amount of $77,146,000.[43]

Q. Have any other states adopted a 5-year net salvage allowance approach?

A. Yes. As I stated earlier the 5-year rolling net salvage allowance approach is used by the Pennsylvania Public Utility Commission.[44] This procedure was also recently adopted by the Missouri PSC in at least two cases in that state[45], and on a trial basis by the Kentucky PSC in two recent cases.[46] The net salvage allowance approach ensures that the Company recovers the net present value of its actual cost, but eliminates the inclusion of future inflation in depreciation rates.

Q. Does this conclude your discussion of net salvage?

A. Yes, I will now discuss life studies.

Life Study Methods

Q. Please describe life analysis and life estimation.

A. Life analysis is the process of estimating how long plant has lived in the past. Life estimation is the process of estimating how long the existing plant will live in the future. Mr. Wiedmayer used two basic methods: the life span method and the retirement-rate actuarial method. The life span method was used for the Production Plant functions and the retirement-rate method was used for the

[43] I/M/O Jersey Central Power & Light Company, BPU Docket Nos. ER0208056, ER0208057, EO02070417 and ER02030173, Summary Order, August 1, 2003, p. 6.
[44] See Penn Sheraton et. al. v. Pennsylvania Public Utility Commission, 198 Pa. Super. 618, 184 A. 2d. 234 (1962).
[45] I/M/O Laclede Gas Company's Tariff to Revise Natural Gas Rate Schedules, Case No. GR-99-315, Second Report and Order, Issued June 28, 2001; I/M/O Empire District Electric Company's Tariff Sheets etc., Case No ER-2001-299, Report and Order, Issued September 20, 2001.
[46] I/M/O The Application of Jackson Energy Cooperative for an Adjustment of Rates, Case No. 2000-373, Order Issued May 21, 2001; and I/M/O Adjustment of Rates of Fleming-Mason Cooperative, Case No. 2001-00244, Order Issued August 7, 2002.

Transmission, Distribution and General functions.

Q. What is the life span method?

A. The life span method is based on the premise that all plant within a property group will retire concurrently a specific number of years after the initial placement. There may be interim additions and retirements; however, all plant is assumed to be subject to a "final retirement."

Chapter X of the NARUC Manual addresses the life span method. It stresses that the final retirement date is the most important factor in the determination of a depreciation rate using the life span method.[47] The NARUC Manual requires consideration of several factors, including economic studies, retirement plans, forecasts, technological obsolescence, adequacy of capacity and competitive pressure in order to develop an informed estimate of the final retirement date.[48] The NARUC Manual elaborates on the need for the consideration of these factors as follows:

> **Economic Studies and Retirement Plans**
>
> Retirement plans for utility properties are supported by various kinds of studies, including economic analyses. It is critical that this vital information be considered; otherwise the [life span] study is analogous to a building which is structurally well built from the ground up but lacking a sound and proper foundation. Retirement decisions should be based on sound engineering and economic principles and practices so that management may be confident

[47] NARUC Manual, p. 146.
[48] Id.

> that the planned retirement of existing plant and approval of new investment are the most economical actions.[49]

The relevance of this quotation will become evident in my discussion of the Company's steam production plant depreciation rates.

Q. What is the retirement rate method?

A. The retirement rate method is an actuarial technique used to study plant lives, much like the actuarial techniques used in the insurance industry to study human lives. It requires a record of the dates of placement (birth) and retirement (death) for each asset unit studied. It is the most sophisticated and reliable of the statistical life analysis methods in that it relies on the most refined level of data. Aged retirements and exposures data from a company's records are used to construct observed life tables ("OLT"). These are then smoothed and extended by fitting, using least-squares analysis, to a family of 31 predefined survivor curves ("Iowa Curves") using varying life assumptions. The process continues until a best fit life is found for each curve. Numerous interactive calculations are required for a retirement rate analysis.

Production Plant Life Span Depreciation Rate Calculations

Q. How did Mr. Wiedmayer calculate production plant depreciation rates?

A. Mr. Wiedmayer used the life span method.

Q. Please explain the life span method.

[49] Id. (Emphasis added).

A. The life span method is actually a procedure to calculate an average service life and average remaining life for a property group. It is based on the assumption that a property group is comprised of a small number of large units subject to concurrent terminal (final) retirement. The period between the original installation and the terminal retirement date is the life span. The period between the study date and the terminal retirement date is the remaining life span. The life span method also recognizes "interim" additions and retirements prior to the terminal date. Importantly, however, interim additions are not considered in the depreciation base or depreciation rate until they occur.[50] The life span method has obvious intuitive appeal. The method also has limitations and strenuous rules for its application.

Q. Do you agree with the Company's use of the life span method?

A. Not necessarily. However, I am not opposing the use of it in this proceeding.

Q. What terminal retirement years is the Company proposing for its production plant investment?

A. The Company's proposed terminal retirement years are shown on Statement E of Exhibit___(MJM-3), which is my depreciation study.

Q. Are these terminal retirement years important?

A. Yes. The terminal (final) retirement year is the most important factor in the determination of a depreciation rate using the life span method.

[50] Id., p. 142.

Q. Do you disagree with the terminal retirement years that Mr. Wiedmayer is proposing?

A. No. I have accepted Mr. Wiedmayer's terminal retirement years based on my own independent analysis. I am including this detailed discussion so that the Commission can understand my reasoning for accepting APS' proposal.

Q. What is the viewpoint of NARUC on the subject of terminal retirement years?

A. In August 1996, NARUC issued an updated version of its Public Utility Depreciation Practices Manual ("NARUC Depreciation Practices Manual"). Chapter X of the manual addresses the life span method. It stresses that the final retirement date is the most important factor in the determination of depreciation rate using the life span method. The NARUC Depreciation Practices Manual requires consideration of several factors, including: economic studies, retirement plans, forecasts, technological obsolescence, adequacy of capacity and competitive pressures, in order to develop an informed estimate of the final retirement date.[51] The NARUC Depreciation Practices Manual elaborates on the need for the consideration of these factors as follows:

> **Selecting Retirement Dates**
>
> As indicated in the above discussion, the final retirement date is the most important factor in the determination of a depreciation rate for life span properties. Therefore, an informed estimate of the final retirement date is essential to ensure adequate recognition of depreciation over the life of the property. Several factors are considered in selecting retirement dates, e.g.

[51] NARUC Depreciation Practices Manual, page 146.

economic studies, retirement plans, forecasts, technological obsolescence, adequacy of capacity and competitive pressure.[52]

Q. What life spans is Mr. Wiedmayer proposing for his depreciation study?

A. The Terminal Retirement Years table in Exhibit___(MJM-3) also shows Mr. Wiedmayer's proposed life spans and remaining life spans. Mr. Wiedmayer proposed life spans range from 51 to 62 years for Steam Production units, 40 years for Nuclear Production units, 88 to 95 years for Hydraulic Production units and 45 to 55 for Other Production units. On average Mr. Wiedmayer proposes 56.5 years for the Steam Production plant.

Q. Does the Company have any of the studies, plans, or forecasts specified in the NARUC depreciation practices manual to support any of its terminal retirement year and life span estimates?

A. Data request MJM 1-11, attached as Exhibit___(MJM-5) addressed this issue. According to the Company, "APS does not maintain the information requested in the question in the form outlined in NARUC Public Utility Depreciation Practices."[53] The response goes on to note that the lives for Four Corners 1-3 and Navajo were tied to the underlying lease terms. The lives for Four Corners 4-5 were tied to the ARO probability for retirement of these units. Other steam production lives were extended based on engineers' estimates, or remained the same as the currently approved life. The life of the nuclear plant reflects the

[52] Id.
[53] Response to MJM 1-11.

license period and the lives of the hydraulic plants reflect the scheduled decommissioning date of 2004.

Q. Did you independently test the reasonableness of the Company's life spans?

A. Yes. I relied on a National Study of U.S. Steam Generating Unit Lives – 50 MW and Greater ("National Study") conducted by my firm. This study, included as Exhibit___(MJM-1) uses analytical techniques generally accepted in the utility industry and a database maintained by the U.S. Department of Energy.[54] The study concludes that U.S. Steam Generating Units 50 MW or greater are experiencing average life spans of approximately 60 years and that these spans are lengthening almost on a year-to-year basis.

Q. Has your firm also conducted National Studies of other production unit retirements?

A. Yes. We have also studied national retirements of Other Production units. We employed Energy Information Administration Form 860 for all units designated as Jet Engine (JE), Combustion Turbine (CT), Gas Turbine (GT) and Internal Combustion (IC). The following table shows the composition of the database.

[54] The study is an actuarial retirement rate analysis, using the Energy Information Agency's Form 860 data base of aged generating unit retirements and exposures. A full band (1900-2000) and both rolling band and shrinking band analyses were conducted.

Table 8

Type of Peaking Unit

	JE	GT	IC	CT	TOTAL
Operable	129	1,354	2,814	107	4,407
Retired	1	,116	1,443	0	1,559
TOTAL	130	1,470	4,257	107	5,963

These technologies are in various stages of introduction as evidenced by the virtual lack of unit retirements in the JE and CT classifications. What they have in common, however, is the way that they are used. All are used primarily to meet short-term peaks in demand. Our study is included as Exhibit___(MJM-2). It indicates lives of approximately 46 years at a minimum which have lengthened in recent years to as long as 56 years.

Q. What are your conclusions based on your National Life Studies?

A. I conclude that Mr. Wiedmayer's proposed life spans for the Steam and Other Production functions are reasonable. This, combined with the Company's response to MJM 1-11 leads me to accept them, even though Mr. Wiedmayer states, "the estimated retirement dates should not be interpreted as commitments to retire these plants on these dates, but rather, as reasonable estimates subject to modification in the future as circumstances dictate."[55] Otherwise I would have recommended that the life span method not be used for APS. Had I done so, the resulting depreciation rates would have been substantially lower since there would not have been an assumed finite retirement date for each unit.

[55] Attachment LLR-4, page II-29.

Q. Have you addressed APS' nuclear depreciation rates?

A. No. Only to the extent of interim net salvage.

Transmission, Distribution and General Functions

Q. How did Mr. Wiedmayer determine his estimated service lives for these functions?

A. Typically, service life estimates start with actuarial or semi-actuarial studies of historical plant information. These studies provide a statistical expression of the average service lives and retirement patterns (dispersion) that have actually been experienced in the past.

Mr. Wiedmayer used the actuarial retirement rate approach to study plant history. This approach related aged retirement data to the amount of plant exposed to retirement during historical age intervals to calculate "retirement ratios." These retirement ratios are then used in a chain calculation to calculate an "observed life table" ("OLT"). The OLT is a series of percents surviving, by age, reflecting the actual [retirement] experience recorded in a band of mortality data.[56] The OLT can be smoothed and extended to zero using mathematical extrapolation or by fitting to a preexisting standardized survival pattern. Mr. Wiedmayer used Iowa curves, each with varying life assumptions to compare or fit to the OLT.

Q. What is an Iowa curve?

A. An Iowa curve is a surrogate or standardized OLT based on a specific pattern of

retirements around an average service life. The Iowa curves were devised over 60 years ago at what is now Iowa State University. They provide a set of standard patterns of retirement dispersion. Retirement dispersion merely recognizes that accounts are comprised of individual assets or units having different lives. Retirement dispersion is the scattering of retirements by age for the individual assets around the average service life for the entire group assets. If one thinks in terms of a "bell shaped" curve, dispersion represents the scattering of events around the average.

There are left-skewed, symmetrical and right-skewed curves known, respectively, as the "L curves," "S curves" and "R curves."[57] A number identifies the range of dispersion. A low number represents a wide pattern and high number a narrow pattern. The combination of one letter and one number defines a dispersion pattern. The combination of an average service life with an Iowa curve provides a survivor curve depicting how a group of assets will survive, or conversely be retired, over the average service life.

Q. Can you provide an example of an Iowa curve?

A. Yes. The following table contains a 5 S0 and 10 S0 life and curve. I have included two combinations to demonstrate that these curves can be calculated with various alternative life assumptions. The percent surviving represents the

[56] National Association of Regulatory Utility Commissioners, Public Utility Depreciation Practices, August 1996 ("NARUC Manual"), p. 322.
[57] There is also a set of Origin Modal ("O") curves which are essentially negative exponential curves.

amount surviving at each age interval shown in the first column. Notice that the 5 S0 life and curve sums to the 5 year average service life which would be used in the depreciation calculations and the 10 S0 life and curve sums to a 10 year average service life.

Table 9

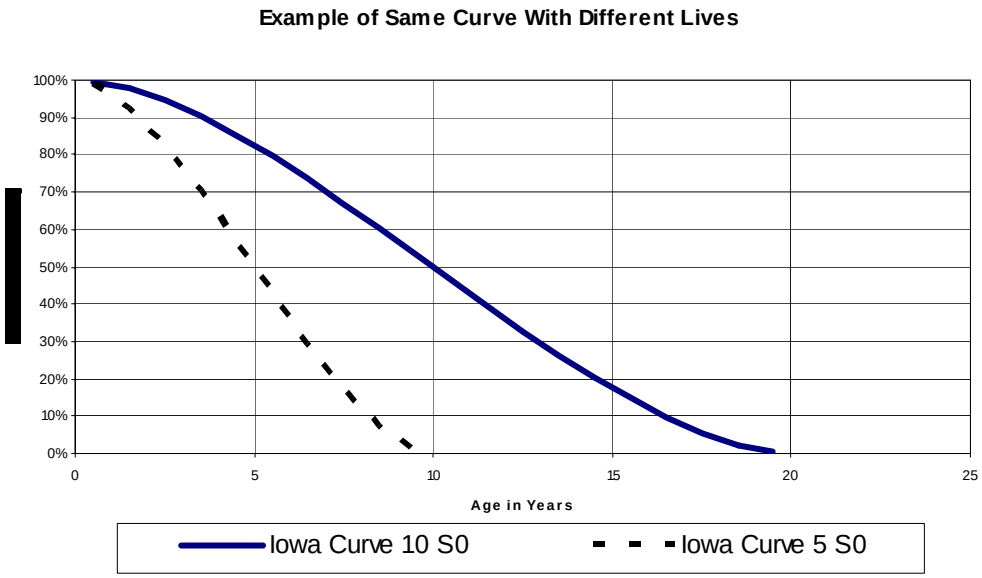
Survivor Curves

Age	5 S0 Percent Surviving	10 S0 Percent Surviving
0.5	0.99	1.00
1.5	0.92	0.98
2.5	0.83	0.94
3.5	0.70	0.90
4.5	0.57	0.85
5.5	0.43	0.80
6.5	0.30	0.74
7.5	0.17	0.67
8.5	0.08	0.60
9.5	0.01	0.53
10.5		0.47
11.5		0.40
12.5		0.33
13.5		0.26
14.5		0.20
15.5		0.15
16.5		0.10
17.5		0.06
18.5		0.02
19.5		0.00
Total	**5.00**	**10.00**

Q. Why do you call tables of numbers, such as the ones above, curves?

A. Because when they are plotted on charts with the x-axis representing "age" and the y-axis representing "percent surviving" they appear as curves as shown below:

Table 10



Q. Can you provide an example of how Mr. Wiedmayer used the actuarial retirement rate approach?

A. I will use account 355 – Poles and Fixtures, Wood as an example to explain Mr. Wiedmayer's approach and also to explain why I disagree with Mr. Wiedmayer's approach.

Q. What band of retirement experience did Mr. Wiedmayer use to analyze this account?

A. Mr. Wiedmayer used the 1973-2001 experience band to analyze the account. Mr. Wiedmayer's resulting OLT is attached as Exhibit___(MJM-6). This was

obtained from Mr. Wiedmayer's study.

Q. Is there anything that the reader should make note of regarding this OLT?

A. Yes, note that on page 2 of Exhibit___(MJM-6), the OLT in the far right column goes to eight (8) percent surviving at the 78.5 age interval. The significance of this fact will become apparent later in my testimony.

Q. Please explain how to interpret Mr. Wiedmayer's chart

A. The series of "Xs" represents the OLT, and the smooth curve represents Mr. Wiedmayer's 48 R1.5 life and curve recommendation for this account.

Q. How did Mr. Wiedmayer arrive at his 48 R1.5 recommendation?

A. Mr. Wiedmayer states that for this account "The survivor curve estimate is based on the statistical indication for the period 1973 through 2001. The Iowa 48 R1.5 is an excellent fit of the significant portion of the original survivor curve."[58]

Q. How did Mr. Wiedmayer select a 48 R1.5 life and curve?

A. Mr. Wiedmayer selected a 48 R1.5 life and curve by fitting various Iowa curves to the OLT. Then he selected a 48 R1.5 and plotted it on the graph.

Q. How did Mr. Wiedmayer fit Iowa curves to the OLT?

A. "The original survivor curves [OLTs] shown in the Depreciation Study and Addendum are fit to the Iowa curves visually using a proprietary screen matching program."[59] In other words, Mr. Wiedmayer used an "eyeball" approach.

Q. Was Mr. Wiedmayer able to determine the statistical "best fit" to the OLTs using the visual approach?

[58] Attachment LLR-4, page II-25.

A. No.

Q. Is Mr. Wiedmayer's software capable of providing a statistical best fit?

A. Yes. "Gannett Fleming's software does produce statistical best fit Iowa curves for each plant account,"[60] however, Mr. Wiedmayer apparently did not refer to or rely upon this feature of his in-house software.

Q. Were you able to determine a best fit?

A. Yes. My software statistically fits Iowa curves to OLTs using least squared differences as the fit criteria. This is a fairly standard approach.

Q. Is Mr. Wiedmayer's 48 R1.5 recommendation the best fit to the OLT he shows on his chart?

A. No. The statistical best fit to the OLT shown on Mr. Wiedmayer's chart is a 70 L0 life and curve.

Q. How did Mr. Wiedmayer make such an error?

A. This error resulted from Mr. Wiedmayer's use of the visual method.

Q. What is your opinion of Mr. Wiedmayer's presentation from an analytical standpoint?

A. Mr. Wiedmayer's partial presentation is misleading from an analytical standpoint, particularly if a visual fitting approach is used. It is appropriate to <u>see</u> all of the data, before making any decisions concerning visual fits.

Q. How much of the complete OLT did Mr. Wiedmayer exclude from his chart?

A. Exhibit___(MJM-8) demonstrates the portion of the OLT from account 355 that

[59] Response to MJM 1-18 (emphasis added).

Mr. Wiedmayer excluded.

Q. If Mr. Wiedmayer had not excluded a portion of the OLT for account 355 and also had obtained the best fit to all of the data, what would be the result?

A. The result is a 46 R2 life and curve, which is actually shorter than Mr. Wiedmayer's recommendation.

Q. Did Mr. Wiedmayer exclude substantial portions of the OLTs for other accounts?

A. Yes, Mr. Wiedmayer excluded substantial portions of the OLTs for several other accounts; for example, accounts 353, 362, 367, 371 and 397. Many of these are significant accounts in terms of dollars.

Q. What would have been the result if Mr. Wiedmayer had obtained a best fit to the complete OLTs for these accounts?

In general, the best fits to the complete OLTs for these accounts yield longer, not shorter, lives.

Q. Is that why you believe that Mr. Wiedmayer's approach is misleading?

A. Yes, in general Mr. Wiedmayer's approach excluded portions of the OLT which, if not excluded, would have resulted in longer life indications.

Alternative Recommendations

Q. Mr. Majoros, based on your identification of this problem in Mr. Wiedmayer's study, have your determined an alternative set of service lives

[60] Response to MJM 2-71.

and Iowa curve recommendations?

A. Yes, I have.

Q. Did you conduct any independent analyses?

A. Yes. I conducted independent retirement rate analyses as described above. I used industry life data to set the upper and lower fitting parameters in my analyses. In other words, I obtained industry statistics to determine the shortest and longest life reported by the industry for each account. I set the parameters in my software to determine the best life fit for each Iowa curve within those upper and lower life boundaries. Therefore, even if the data would support a much longer life, the curve fitting process ends at the upper limit of the industry range.

Q. Is the industry data included in your study?

A. Yes, the industry data is included in the study, but the individual company names are not shown because the study, which is prepared by the Edison Electric Institute, is labeled as confidential.

Q. Did you consider any other information?

A. Yes. I propounded, and APS responded to, several data requests designed to learn more about the Company's life extension programs and other plans. These data requests were MJM 1-4, 1-5, 1-6, 1-7, 1-11, 1-12, 1-39, 1-40, 1-57, 1-58, 2-68, 2-69, and 2-76.

Q. How did you arrive at your alternative recommendations?

A. First, I grouped the accounts and subaccounts into the same study groups identified by Mr. Wiedmayer. The groups are:

Wiedmayer Study Groups

1. Mass accounts for which statistical analysis was primary basis for estimates.[61]

2. Life Span Accounts.[62]

3. Amortization accounts.[63]

4. Mass accounts based on judgments incorporating the nature of the plant and equipment, reviews of historical retirement data and general knowledge of service lives for similar equipment in other electric companies.[64]

Q. What was your next step?

A. Based on my acceptance of the Company's life spans, I eliminated the Life Span Account group from my study.

Q. Would you please list, by group, the remaining accounts you are addressing?

A. Yes, I will summarize and discuss each group individually. The first group is mass accounts for which statistical analysis was the primary basis for estimates.[65] This group contains the following accounts:

[61] Attachment LLR-4, page II-24.
[62] Id., page II-25.
[63] Id., page II-29.
[64] Id.
[65] Id., page II-24.

Mass Accounts for Which Statistical Analysis
Was the Primary Basis for Mr. Wiedmayer's Estimates

Transmission Plant
353 – Station Equipment
355 – Poles and Fixtures – Wood

Distribution Plant
362 – Station Equipment
364 – Poles, Towers and Fixtures – Wood
365 – Overhead Conductors and Devices
366 – Underground Conduit
367 – Underground Conductors and Devices
368 – Line Transformers
370 – Meters
371 – Installations on Customers Premises
373 – Street Lighting and Signal Systems

General Plant
390 – Structures and Improvements
397 – Communication Equipment

Q. Do you have any general comments regarding these accounts?

A. Yes. In most cases, Mr. Wiedmayer excluded a substantial portion of the OLT for the accounts on his charts, and also, in most cases his recommended life and curve is inaccurate as result of his visual method.

Q. Did you conduct actuarial retirement rate studies for these accounts?

A. Yes, I did. These studies and the related charts are included in Exhibit___(MJM-3) which contains all of my actuarial analyses in chronological order by account number.

Q. Have you compared your results to Mr. Wiedmayer's proposals?

A. Yes. They are compared on Statement B of Exhibit___(MJM-3).

Q. What do you recommend?

A. I recommend the statistical best fit results based on full OLT data. These are the accounts that Mr. Wiedmayer designated as being most appropriate for statistical analysis, thus, I recommend the statistical best fit. Please refer to the individual account discussions in Exhibit___(MJM-3) for a more detailed description of my disagreements with Mr. Wiedmayer.

Q. What is the next group that you studied?

A. The next group consists of the accounts for which Mr. Wiedmayer exercised judgment. They are:

Mass Accounts for Which Mr. Wiedmayer
Considered Statistical Analysis to be Inconclusive

Transmission Plant
352 - Structures and Improvements
352.5 - Structures and Improvements - SCE 500 KV Line
353.5 - Station Equipment - SCE 500 KV Line
354 - Towers and Fixtures
354.5 - Towers and Fixtures - SCE 500 KV Line
355.1 - Poles and Fixtures - Steel
355.5 - Poles and Fixtures - SCE 500 KV Line
356 - Overhead Conductors and Devices
356.5 - Overhead Conductors and Devices - SCE 500 KV Line
357 - Underground Conduit
358 - Underground Conductors and Devices

Distribution Plant
361 - Structures and Improvements
364.1 - Poles and Fixtures - Steel
369 - Services
370.1 - Electronic Meters

Q. Did you review Mr. Wiedmayer's actuarial retirement rate studies for this group of accounts?

A. Yes.

Q. What did you find?

A. Again, Mr. Wiedmayer excluded substantial portions of the OLT for several accounts.

Q. Did you conduct actuarial retirement rate studies based on the full OLT data?

A. Yes, I did.

Q. What were your results?

A. Exhibit___(MJM-3) also shows the results of my actuarial analyses for these accounts.

Q. Do you also recommend that the best fit result be adopted for all of these accounts?

A. No. In fact, I accepted all of Mr. Wiedmayer's proposals for these accounts except for electronic meters. Mr. Wiedmayer proposed to reduce the life from 26 to 12 with no support for that account. I recommend retention of the existing 26 years.

Q. Does this conclude your discussion of your survivor curve recommendations?

A. Yes.

Q. What is the overall result?

A. I calculated remaining lives using my recommended survivor curves. These calculations were made using the same procedures as Mr. Wiedmayer and are included in Exhibit___(MJM-3).

Depreciation Rate Calculations

Q. Does APS maintain its book depreciation reserve by plant account?

A. No.[66]

Q. How did Mr. Wiedmayer calculate his estimated reserve for each plant account for purposes of calculating his proposed depreciation rate?

A. I am not sure how Mr. Wiedmayer estimated the reserve for each plant account. In Data Requests MJM 1-2 and MJM 3-85 I requested an electronic version of all of Mr. Wiedmayer's tabulations, with all formulae intact. While I was provided with an electronic version of Mr. Wiedmayer's rate calculations, the actual amounts are shown as hard coded amounts. Hence, I do not know how Mr. Wiedmayer estimated his reserve amounts.

Q. Have you reallocated the reserve amounts between plant accounts?

A. Yes. I allocated the reserves by function to plant accounts based on theoretical reserves developed using my recommended parameters. These amounts were then used to calculate my recommended remaining life depreciation rates.

Q. Have you calculated recommended depreciation rates for APS?

A. Yes. My depreciation rate calculations are shown on Statement A of Exhibit___(MJM-3).

PWEC Depreciation Rates

Q. Have you reviewed the Company's requested depreciation rates for the Pinnacle West assets?

[66] Response to MJM 1-30.

A. Yes I have. The Company's proposed rates for the PWEC assets are developed in the Depreciation Study Addendum portion of Attachment LLR-4. The plant in question consists of both Other Production and Transmission related plant. The proposed depreciation rates are straight-line remaining life rates.

Q. How did Mr. Wiedmayer analyze the PWEC Other Production plant accounts?

A. As with the APS production plant , Mr. Wiedmayer used the life span method.

Q. What life spans does Mr. Wiedmayer propose for these accounts?

A. Mr. Wiedmayer proposes a 32-year life span for Redhawk Combined Cycle Units 1 and 2, and 30-year life spans for West Phoenix Combined Cycle Unit 4 and Saguaro Combustion Turbine Unit 3.

Q. Do you agree with Mr. Wiedmayer's proposed life spans for this plant?

A. I do not agree with the life spans used by Mr. Wiedmayer for these units. They are too short. As discussed above, my National Study supports life spans of around 46 years for Other Production plant. Mr. Wiedmayer is proposing life spans of 30 and 32 years. The Company does not support these life spans. In fact, the Depreciation Study Addendum states, "The estimated retirement dates should not be interpreted as commitments to retire these plants on these dates, but rather, as reasonable estimates subject to modification in the future as circumstances dictate.[67]

Q. What life spans do you recommend?

[67] Attachment LLR-4, Depreciation Study Addendum, page II-4.

A. Mr. Wiedmayer used a 55-year life span for combined cycle equipment in his study of APS, and a 45-year life span for combustion turbine equipment. To maintain consistency I recommend the same for the PWEC plant. My recommendations are compared to Mr. Wiedmayer's in Table 11 below.

Table 11

Other Production	Company Proposed Life Span	Snavely King Recommended Life Span
Redhawk CC Units 1 & 2	32 years	55 Years
West Phoenix CC Unit 4	30 years	45 Years
Saguaro CT Unit 3	30 years	55 Years

Q. Do the depreciation rates for the PWEC assets include a provision for net salvage?

A. No, they do not. As explained on page II-5 of the Depreciation Study Addendum portion of Attachment LLR-4, "PWEC will treat all removal costs as a current period expense as incurred consistent with SFAS 143. The treatment of cost of removal as an expense is a departure from the typical accounting treatment used for regulatory purposes. However, since these facilities are owned by PWEC, a company whose assets are not regulated by the Arizona Corporation Commission, the Company is compelled to adhere to SFAS 143."[68]

Q. What is the basis for Mr. Wiedmayer's proposed lives for the transmission

[68] Attachment LLR-4, Depreciation Study Addendum, page II-5.

plant accounts?

A. Mr. Wiedmayer's proposed service life estimates are based on judgment which considered a number of factors, including statistical analyses of historical and projected plant accounting data for Redhawk, current Company policies and outlook as determined during field reviews of the property, conversations with management, and survivor curve estimates from previous studies of this company and other electric companies.[69]

Q. On an account by account basis, how do Mr. Wiedmayer's proposed life estimates compare with those he proposed for the APS plant?

A. Mr. Wiedmayer is proposing the same lives and curves for the PWEC assets as he is proposing for the APS assets. Table 12 below summarizes that comparison:

Table 12

	Wiedmayer	
Account	**PWEC Proposal**	**APS Proposal**
353 – Station Equipment	42-R3	42-R3
355 – Poles & Fixtures, Steel	55-R3	55-R3
356 – Overhead Conductors & Devices	55-R3	55-R3

Q. How do these lives compare with your recommendations for the APS plant accounts?

[69] Id., page II-3.

A. I have agreed with Mr. Wiedmayer's selected life and curve for accounts 355 and 356. However, I have recommended a 57-R1.5 life and curve for APS' account 353.

Q. What do you recommend for the PWEC transmission assets?

A. Consistent with my recommendations for APS plant, I recommend a 57-R1.5 life and curve for account 353. I accept Mr. Wiedmayer's 55-R3 life and curve for accounts 355 and 356 as I did in the APS study.

SUMMARY

Q. Please summarize your recommendations.

A. My recommendations are individually discussed in my testimony above and in my exhibits. In general:

- I have addressed the Company's SFAS No. 143 proposal, and found that its depreciation study results in higher charges to ratepayers than would result if APS had actual legal obligations for a majority of its plant.
- APS proposal is inconsistent with the principles of SFAS No. 143 and FERC Order No. 631.
- I have removed net salvage as a component of the Company's depreciation rates.
- I have identified and recommended a specifically identifiable net salvage allowance in conformance with FERC Order No. 631, based on a five-year average of actual experience. Due to the Company's experience, on average, of positive net salvage, I recommend this allowance to be $0.

- I have accepted the Company's life spans for its production plant functions.
- I have performed actuarial analysis of APS' transmission, distribution and general plant and have calculated new depreciation rates based on my findings.
- I have reviewed the Company's proposal regarding the PWEC assets and conformed the life proposals to the APS proposals.

My recommendations result in a $240.3 million depreciation expense accrual. This is $47.4 million less than the Company's proposal. My recommendations also result in a $27.8 million expense for the PWEC which is $13.7 million less than the Company's request.

Q. Does this conclude your testimony?

A. Yes, it does.